AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1 - 54. (Cancelled)

55. (New) A method of treating cancers having a zyxin gene expression/abnormality selected from the group consisting of hepatocarcinomas, mesenchymal tumors, neuroectodermal cancer, Ewing's sarcoma, melanoma, and malignant hemopathies associated with chromosomal anomalies of region of 7q34/q35 of zyxin gene, comprising administering a therapeutically effective amount of a composition comprising an active agent which stabilizes an actin network of a cellular cytoskeleton and wherein said active agent is selected from the group consisting of:

a zyxin protein or a polypeptide fragment thereof, a nucleic acid molecule comprising cDNA of a zyxin gene, a fragment thereof or a complementary sequence, or an antisense nucleic acid thereof, a cell or set of cells overexpressing the zyxin gene or a functional fragment thereof,

an inhibitor of cofilin, and

a cyclic peptide,

to a patient in need thereof.

56. (New) The method according to claim 55, wherein said active agent is selected from the group consisting of:

a zyxin protein or a polypeptide fragment thereof, a nucleic acid molecule comprising cDNA of a zyxin gene, a fragment thereof or a complementary sequence, or an antisense nucleic acid thereof, a cell or set of cells overexpressing the zyxin gene or a functional fragment thereof.

57. (New) The method according to claim 56, wherein said active agent is a nucleic acid molecule comprising cDNA of a zyxin gene, a fragment thereof or complementary sequence.

58. (New) The method according to claim 55, wherein said cancers are selected from the group consisting of Ewing's sarcoma and melanoma.

59. (New) The method according to claim 58, wherein said cancers are Ewing's sarcoma.

60. (New) The method according to claim 57, wherein the nucleic acid molecule is inserted into a viral vector selected from the group consisting of an adenovirus vector, an adenovirus associated virus vector (AAV), a baculovirus vector and retrovirus vector, wherein nucleic acid molecule is operably linked to a CMV promoter, a EF1 alpha promoter or a PGK promoter.

61. (New) The method according to claim 60, wherein the retrovirus vector is a lentivirus vector comprising LTRs sequences of Moloney's leukemia virus operably linked to a 5' LTR promoter.

62. (New) The method of treating cancers having a zyxin gene expression/abnormality selected from the group consisting of hepatocarcinomas, mesenchymal tumors, neuroectodermal cancer, Ewing's sarcoma, melanoma, and malignant hemopathies associated with chromosomal anomalies of region of 7q34/q35 of zyxin gene, comprising :

a) identifying a subject having a tumor underexpressing a zyxin gene;

b) administering a therapeutically effective amount of a pharmaceutical composition to the subject identified with the tumor, the composition comprising :

(i) a zyxin protein or a polypeptide fragment thereof, a nucleic acid molecule comprising cDNA of a zyxin gene, a fragment thereof or a complementary sequence, or an antisense nucleic acid thereof, a cell or set of cells overexpressing the zyxin gene or a functional fragment thereof and

(ii) a pharmaceutically acceptable carrier.

63. (New) The method according to claim 62, wherein said cancers are selected from the group consisting of Ewing's sarcoma and melanoma.

64. (New) The method according to claim 63, wherein said cancers are Ewing's sarcoma.

65. (New) The method according to claim 62, wherein the pharmaceutical composition administered to the subject comprises a viral vector having a cDNA of a zyxin gene, a fragment thereof or a complementary sequence operably linked to a promoter capable of inducing expression of the zyxin gene, fragment thereof or complementary sequence in the tumor of the subject.

66. (New) The method according to claim 65, wherein the viral vector is selected from the group consisting of an adenovirus vector, an adenovirus associated virus vector (AAV), a baculovirus vector and a retrovirus vector.

67. (New) The method of claim 65, wherein the promoter operably linked to the zyxin gene is selected from the group consisting of CMV promoter, EF1 alpha promoter and PGK promoter.

68. (New) The method of claim 66, wherein the retrovirus vector is a lentivirus vector comprising LTRs sequences of Moloney's leukemia virus operably linked to a 5' LTR promoter.

69. (New) The method according to claim 62, wherein the pharmaceutical composition is administered to the cells of said tumor.